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United States  
Department of  
Agriculture

Animal and  
Plant Health  
Inspection  
Service

Veterinary  
Services

## Highlights of the National Swine Survey

The National Swine Survey was a cooperative effort of State agricultural departments; universities; and the following USDA agencies: Extension Service (ES), National Agricultural Statistics Service (NASS), and Animal and Plant Health Inspection Service (APHIS). The study of swine health and productivity was conducted from December 1989 through January 1991. The objectives were to provide information on the production and health levels of the United States' swine herd, and to suggest factors that may affect preweaning morbidity and mortality.

The following are highlights of the study results:

- Litter size averaged 10.8 pigs, with 9.9 piglets born alive. The number of piglets born alive increased from 9.2 to 10.7 from the first to the fifth parity.
- Stillbirths increased steadily from the second through the sixth parity. The proportion of mummies per litter did not change.
- Preweaning piglet mortality averaged 15.0 percent per litter. These early death losses cost producers \$193.7 million in potential profits.
- If the costs of sow deaths during the farrowing period and stillborn/mummies were included with preweaning piglet mortality, lost profits totaled over \$342 million for 1990.
- The principal clinical signs associated with neonatal death were crushing by the sow (43 percent), starvation (20 percent), and diarrhea (10.8 percent). No clinical signs were identified for 13 percent of the deaths.
- Most (75 percent) of the preweaning deaths occurred in the first seven days of the piglet lives. Deaths decreased as the piglets grew older.
- Scours were commonplace in baby piglets, with an average of seven new cases of scours (diarrhea) per week for every 100 piglets one to three days of age. The scours rate decreased as the piglets grew older.
- Nearly 15 percent of the water supplies to sows contained nitrate levels higher than the EPA standard (for human health) of 45 parts per million (ppm). The highest nitrate levels were identified in herds using shallow wells or rivers/creeks.
- Most producers used vaccinations as one disease prevention strategy. The most common vaccinations in adult swine were leptospirosis, parvovirus, and erysipelas. For piglets, the most frequent were erysipelas and atrophic rhinitis.
- Seventy-five percent of the swine producers in 1990 requested services of a veterinarian.



The veterinarians primarily provided diagnostic services and drugs. Veterinarians were rarely used for housing and ventilation advice.

- Forty-four percent of the producers relied on nonveterinary consultants for premixes and nutritional advice.
- Quarantine procedures for new arrivals of sows and gilts were utilized by only 34 percent of the producers. Twice as many producers isolate new boars.

- Total confinement facilities were widespread, with 81 percent of U.S. producers having at least one total confinement unit. Flooring varied widely in the confinement facilities with wire or expanded metal flooring in 58 percent of the units, concrete in 30 percent, coated metal in 23 percent, wood in 10 percent and concrete slats in 4 percent.
- Eighty-six percent of the farms with confinement facilities used farrowing crates.

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The statistical sample of producers from 18 States was selected to provide inferences about the nation's hog population. The resulting estimates represent 95 percent of the United States' swine population.

The National Agricultural Statistics Service (NASS) selected the sample and collected retrospective data on swine health and management practices from 1,661 farms.

Seven hundred and twelve (712) producers agreed to continue providing data to State and federal Veterinary Medical Officers (VMO's). Each farm was visited a total of four times over a 90- to 120-day period. Data collection instruments such as diary cards were implemented to collect prospective data on the farrowing to

weaning stage of swine production. The producers recorded observations of clinical signs associated with illness and death in sows, gilts, and preweaning piglets.

Specimen analyses for the National Swine Survey were performed by the National Veterinary Services Laboratories (NVSL) in Ames, Iowa.

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